

Work Order ID 54697

December 16, 2009 1:01:45 PM



Page 1

Item ID: D2580-1

Accept



Setup Start



Revision ID:

Stop



Item Name: 205 Skidtube bent detail

Start Date: 16/12/2009 Start Qty: 2.00



Cust Item ID:

Required Date: 21/12/2009 Req'd Qty: 2.00



Customer:

Reference:

Run Start



Approvals:

Process Plan: *PL*Date: *09-12-16*

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2580

Rev D

100

0.00



HandFinish

Memo

0.00

Hand Finishing

1- Inspect mat'l D2500-1-190 for damage.

2- Chemical Conversion Coat as per QSI 005 4.1

2 - - AWM 10-01-09

101

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

2 12/4/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Page 2

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Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2580 without cutting fluid

3-Deburr and blow out all chips from inside of tube

4-Bond web in place per QSI 015.

□□

A/R Sikaflex-291 batch: 112395

Sikaflex expire date: 10-02-20

Start time: 4:15pm bond for 12hrs

2 - - AWM 10-01-04

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Handwritten signature

10-1-6 (2)

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December 16, 2009 1:01:45 PM



Page 3

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Cust Item ID:

Required Date: 21/12/2009 Req'd Qty: 2.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

Identify as per dwg & Stock Location:

46

0.00

DP 10-1-6

2



Packaging

Memo

0.00

Packaging

150

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/01/07
MF 10-01-07

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NOTE: Date & initial all entries

Picklist Print

December 16, 2009 1:01:49 PM

Page 1

Work Order ID: 54697



Parent Item: D2580-1



Parent Item Name: 205 Skidtube bent detail

Start Date: 16/12/2009

Required Date: 21/12/2009

Comments:

Start Qty: 2.00

Required Qty: 2.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2500-1-190		Manufactured	No				Each	104.0000	2.0000			
Ext'n - 1' Beam Tube 4"												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG

101

52319

101

Main Warehouse

ST

3

46468

3

D2596

Manufactured No

110

Each

6.0000

2.0000



Web, 205 Skidtube

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG

6

53263

1

54621

5

AUM 10-01-04 (2)

AUM 10-01-04 (2)

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

DART**RELEASED**
07 06 28 #

DESIGN #	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 54697
B109-12-16

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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NOTE: Date & initial all entries

[illegible]

5

D2579 SPACER

D2596 WEB (REF)

AL57-1032-130 (REF)
(TYP 50 PLACES)

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C/BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

37.50
DISTANCE TO AFT END
OF D2596 WEB

3
7

1.750
1.750

0.508 (TYP.)
(40 PLACES)

REFER TO DETAIL A

8.750
17.375
26.000
34.188

57.313 (REF)
7 EQUAL SPACES
8.188 PITCH

38.0
91.500
190.0
(D2500-1)

D3566-041 ASSEMBLY DETAIL

WELD AS PER DETAIL 8

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5 1.5 1.5

8

1.5 1.5 1.5

P P P P P P P P

REFER TO DETAIL C

D3566-1

D3566-5

D3566-13

D3564-11

D3564-5

D3564-9


D3564-13

AN3C4A BOLT (1)

AN960C10L WASHER (1)

(50 PLACES)

DESIGN	11	DRAWN BY	
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	CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	SHEET 2 OF 3
	DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY		SCALE 1:2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

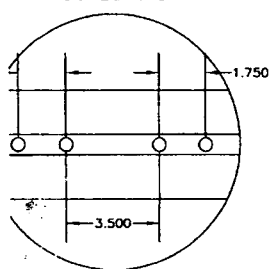
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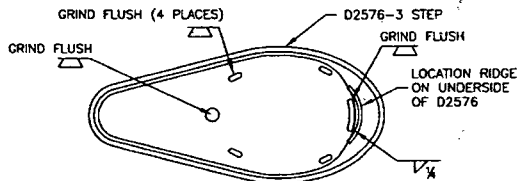
NOTE: Date & initial all entries

DETAIL E
SCALE 5:24

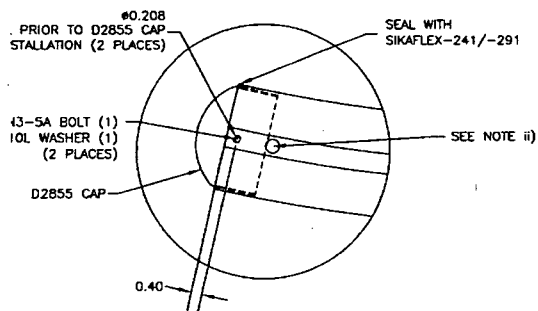


RELEASED
07-06-28

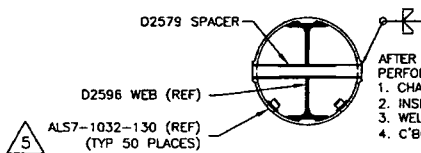
DETAIL F
SCALE 5:24



DETAIL G
SCALE 5:24



SECTION H-H
SCALE 5:24



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

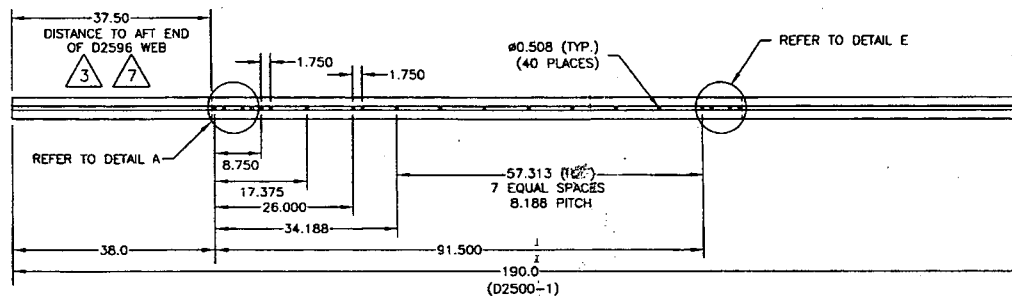
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

-045 NOTES

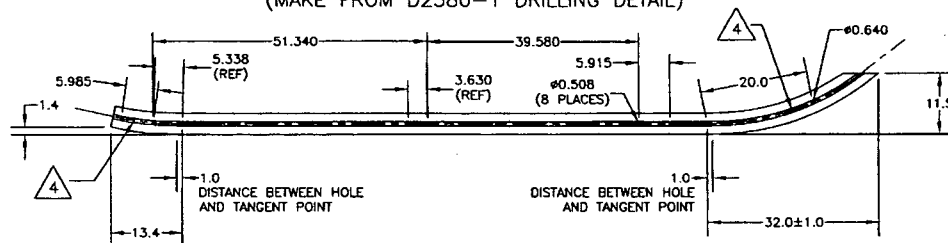
FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

- IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

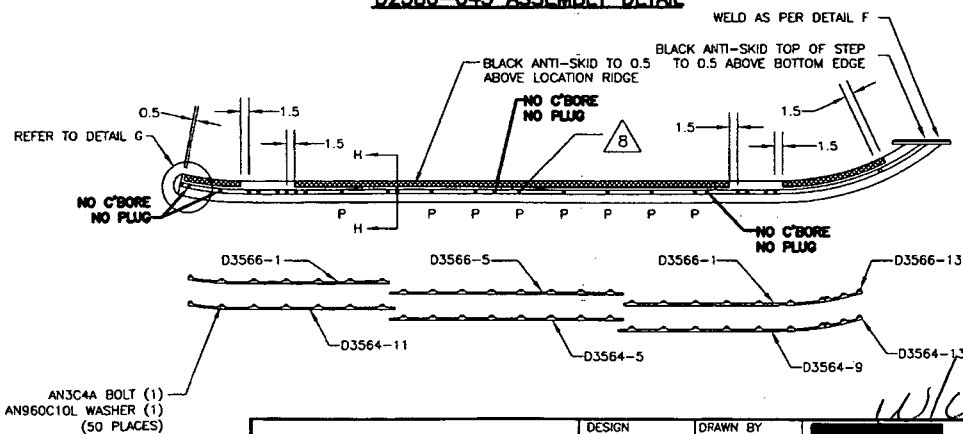
D2580-1 DRILLING DETAIL



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



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DART AEROSPACE LTD.

DESIGN

24

CHECKED

DATE
07.02.27

DRAWN BY	
----------	--

Re

APPROVED

DART DART AEROSPACE LTD.
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
D2580

DART AEROSPACE LTD.
HAWKESBURY, ONTARIO, CANADA

REV. D
SHEET 3 OF 3

ASSEMBLY

REV. D

SHEET 3 OF 3

SCALE

1:24

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